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Test Program Number	Test Program Title	Test Program Objective	Model Configuration (S)	Test Conditions: Frequency: UHF; Polarization: Horiz.; Pattern: Conical; 0° -7° -11° -14°	Test Conditions: Frequency: "I" Band; Polarization: Horiz.; Pattern: Conical; 0° -7° -11° -14°	Test Conditions: Frequency: "J" Band; Polarization: Vertical; Pattern: Conical; 0° -7° -11° -14°
0	Site Illumination Test	This series of tests, to be performed by [redacted] & LAC jointly, is intended to verify the suitability of the target illumination or to aid in correcting defects which might exist.	The area in which the target will be illuminated shall be scanned with the aid of antennas suitable to the frequency employed. An adjustable antenna tower mounted on a low silhouette vehicle shall be used to support the exploring antenna.	Special test; no conical patterns. A raster-like scan shall be employed. Single frequency illumination.	Special test; no conical patterns. A raster-like scan shall be employed. Single frequency illumination.	Special test; no conical patterns. A raster-like scan shall be employed. Single frequency illumination.
1	Hydraulic Ram (Pole) Tests	To determine the return from the hydraulic ram lift (pole) and its protective treatment.	50 ft. ram with its protective treatment.			
2	Bag & Jig Tests	To determine the return from the bag and support jig for the 1/8 scale model.	The 22 ft. bag with spiral seams with & without the jigs which support the 1/8 scale model. (a) horizontally(±6°) (b) vertically (nose up)			
3	Standard Reference Series (Full Scale)	To provide a set of standard reference patterns from an all-metal version of the A.C. at all frequencies and angles available at the [redacted] 25X1A6a	Full size A.C. aluminum covered chines, Al. inlet diffusers, Al. covered fins tilted 15° inboard, Al. covered wings. A.C. to be tested upside down on the pole.			
4	Standard Reference Series (1/8 Scale)	To provide a set of standard reference patterns from an all-metal version of a 1/8 scale model at all frequencies and angles available at the [redacted] 25X1A6a	One-eighth scale; Al. covered chines, al. covered inlet diffusers, al. covered fins tilted 15° inboard. (Check of [redacted] work.) 25X1A5a2			
5	Basic Treatment Tests (Full Scale)	To determine the effects of the basic (low temperature) A.R. treatment. Basic treatment means that treatment best known as of Nov. 2, 1959.	Full Scale A.C.: a. R.H. side all-metal; L.H. side treated with 110Ω foam + T.F., chines and wings. 110Ω foam in L.H. inlet diffuser all-metal fins, tilted 15° inboard. b. Same as (a) except for fins tilted 10° inboard. c. Same as (a) but with plastic fins tilted 15° inboard. d. Same as (a) except that fins shall be removed. e. Same as (a) except for plastic fins at 0°.			

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Test Program Number	Test Program Title	Test Program Objective	Model Configuration (3)	Test Conditions		
				Frequency: UHF Polarization: Horiz. Pattern: Conical 0° -7° -11° -14°	Frequency: "L" Band Polarization: Horiz. Pattern: Conical 0° -7° -11° -14°	Frequency: "S" Band Polarization: Vertical Pattern: Conical 0° -7° -11° -14°
6	Basic Treatment Tests (1/8 Scale)	To determine the effects of the basic (low temperature) A.R. treatment using 110 med. polyether foam and T.P. and to provide attenuation data for frequencies equivalent to some which are not available at the [redacted]	1/8 Scale A.C. a. R.H. side all metal. L.H. side treated with 110 Ω foam + T.P., in chines & wings 110 Ω foam in L.H. inlet diffuser, all-metal fins tilted 15° inboard.			
		25X1A6a				
7	Protection Angle-Basic Treatment (1/8 scale)	To investigate the broadside return as a function of angle above and below the horiz. plane. To determine the amount, if any, and the angle of protection provided by the chines.	1/8 Scale a. R.H. side all metal. L.H. side treated with 110 Ω foam + T.P. in chines & wings, 110 Ω foam in inlet diffuser, all-metal fins tilted 15° inboard.	Frequency: UHF Polarization: Horiz. Pattern: Conical 0° -7° -11° -14°	Frequency "L" Band Polarization: Vertical Pattern: Transverse Vertical Special test: model shall be mounted with its nose up and rotated about the longitudinal of A.C. The resulting pattern will be equivalent to rolling the A.C.	Frequency: "S" Band Polarization: Horiz. Pattern: Transverse Vertical Special test: same as "L" band test.
8	Standard Reference Series (10 ft. Fus. Section)	To provide a set of standard reference patterns for all frequencies and angles available at the [redacted] 25X1A6a	10 ft. Fuselage Section: a. R.H. (by definition) side all metal. L.H. side treated with 110 Ω foam + T.P. in chine section mounted with its axis horizontal. b. Same as (a) except the axis shall be vertical and the section shall be rotated about its axis.			
9	Afterburner Outlet Configuration (1/8 Scale)	To determine how much, if any, difference in return results from the use of different afterburner outlet configurations.	1/8 Scale: a. Circular outlets, cutoff ⊥ to ℄ of nacelle. b. Circular outlets cut off 80° to ℄ of nacelle (tilted fwd) c. Outlets of (b) rotated in 90° steps. d. Square outlets, cut off ⊥ to ℄ nacelle.			

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Test Program Number	Test Program Title	Test Program Objective	Model Configuration (S)	Test Conditions
9 (Cont.)	Afterburner Outlet Configuration (1/8 Scale)		e. Square outlets cut off 80° to nacelle (tilted 10° fwd.) f. Square outlets of (e) rotated in 90° steps. g. Rectangular outlets of 1.5:1 a.r. cut off ⊥ ℄ of nacelle. h. Rectangular outlet of (g) cut off 80° to ℄ nacelle. i. Outlet of (h) rotated in 90° steps.	Frequency: UHF Polarization: Horiz. Pattern: Conical 0° -7° -11° -14° Frequency: "L" Band Polarization: Vertical Pattern: Transverse Vertical Frequency: "S" Band Polarization: Horiz. Pattern: Transverse Vertical
10	Nacelle Tests (1/8 Scale)	To determine the degree to which the nacelles contribute to the total response on a treated model.	1/8 Scale Model a. All aluminum, complete model with the nacelles removed. b. Completely treated model: 110 Ω foam + T.P. in chines & wings, Al. fins tilted 15° inboard, 110 Ω foam in inlet diffusers. 110 Ω foam + T.P. in nacelle chines. c. Same as (b) except nacelles removed and gaps smoothed with Al. foil.	Frequency: UHF Polarization: Horiz. Pattern: Conical 0° -7° -11° -14° Frequency: "L" Band Polarization: Horiz. Pattern: Conical 0° -7° -11° -14° Frequency: "S" Band Polarization: Vertical Pattern: Conical 0° -7° -11° -14°
11	Subteeth Tests (10' Sect.)	To determine the effect, if any, of the addition of "sub-teeth" to the edges of typical fuselage chine teeth.	10 Ft. Fuselage Section a. R.H. side Al. covered. L.H. side treated with 110 Ω foam + T.P. 2" "sub-teeth" added to each edge of the chine teeth on the lower surface of the typical chine. b. Same as (a) except 2" "sub-teeth" added to top surface if those on the lower surface cause any improvement.	

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Test Program Number	Test Program Title	Test Program Objective	Model Configuration (S)	Test Conditions: Frequency: UHF, Polarization: Horiz., Pattern: Conical — 0°	-7°	-11°	-14°	Test Conditions: Frequency: "L" Band, Polarization: Horiz., Pattern: Conical — 0°	-7°	-11°	-14°	Frequency: "S" Band, Polarization: Horiz., Pattern: Conical — 0°	-7°	-11°	-14°
12	Doubly Tapered T.D. Tests (10 Ft. Section)	To determine the effect, if any, of doubly tapering the T.D. stacks on each of the chine gap surfaces.	10 Ft. Fuselage Section a. R.H. side Al. covered. L.H. side treated with 110 foam + T.D. stack cut as described in Project Memo No. 8, Section 8e.												
13	Comparison T.D. vs. T.P. (10' Sect.)	To obtain information about optimizing the resistance taper required if foam is used. Note: F.S. has T.D. 1/8 has T.P.	10 Ft. Fuselage Section a. R.H. side Al. covered L.H. treated with 110 Ω foam, + T.D. stack. b. Same as (a) except using T.P. in place of T.D.												
14	Resistance Loaded Honey - Comb.	To determine the parameters of the resistance loaded honeycomb in an effort to replace foam & T.P. or foam & T.D. with a better structural material.	10 Ft. Fuselage Section a. R.H. side Al. covered. L.H. side treated with resistance loaded honeycomb in the chine gaps. b. Same as (a) but with T.D. added one layer at a time, increasing the loading until a significant change occurs. c. Same as (a) but with 110 Ω foam inside the chine gaps to increase the loss.												
15	Ferrite Edge Loading	To determine the value, if any, or the penalty, if any, (at high frequencies) of the use of ferrite loading of chine & wing edges.	10 Ft. Fuselage Section a. R.H. side Al. covered. L.H. side treated with 110 Ω foam + T.D. ferrite beads on a thin (.040") wire across each chine gap.												
16	Afterburner Evaluation	To determine the effect of hot gases (& ionization) on the return from the tail-pipe of a typical jet A.C.	F94-C aircraft on 50' pole a. Engine idling or shut off. b. Engine running + afterburner. c. Engine running + afterburner + water.												

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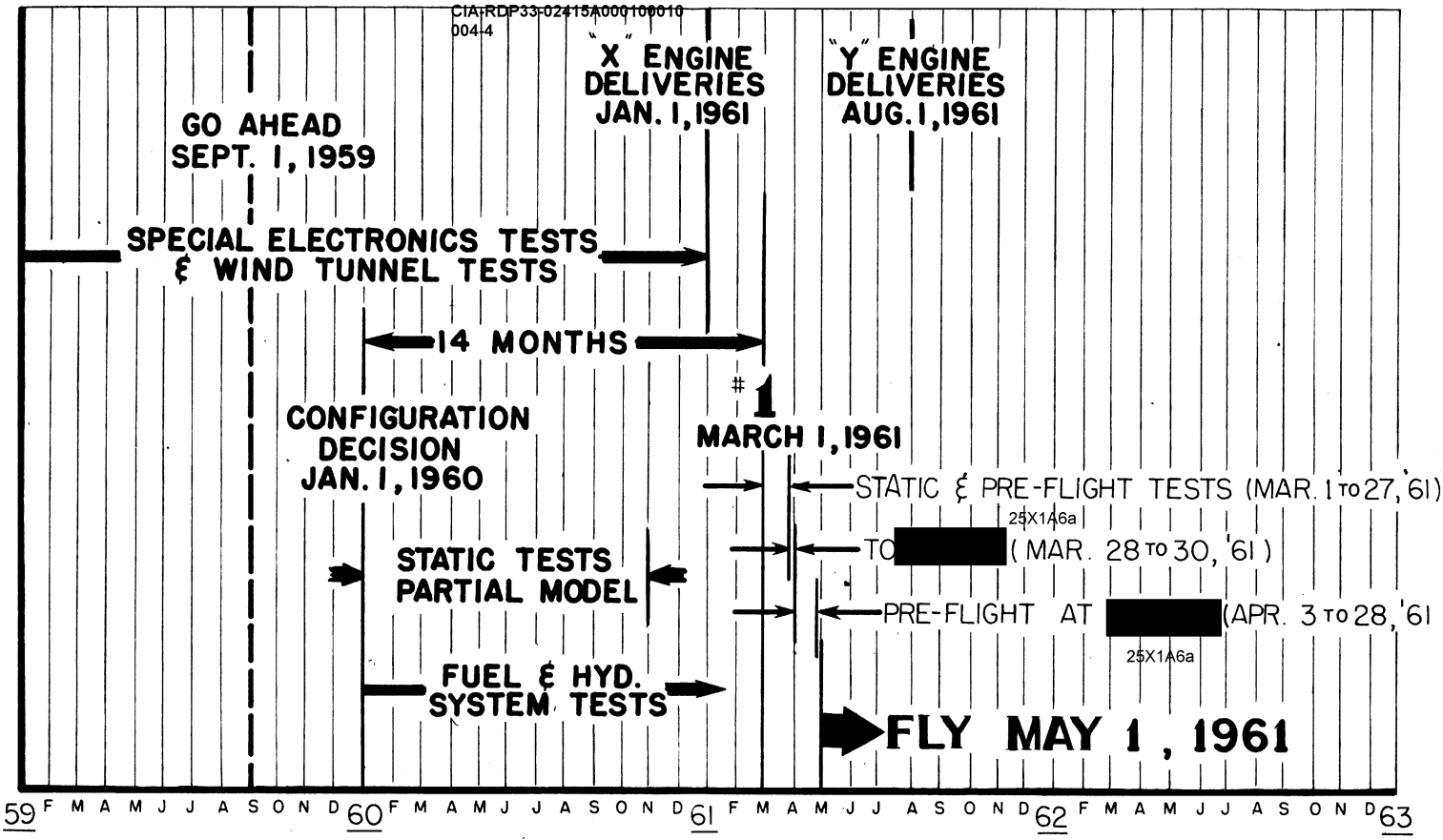
PROTOTYPE A-12 SCHEDULE


"X" ENGINE DELIVERIES JAN. 1, 1961
"Y" ENGINE DELIVERIES AUG. 1, 1961
GO AHEAD SEPT. 1, 1959
SPECIAL ELECTRONICS TESTS & WIND TUNNEL TESTS
14 MONTHS
1 MARCH 1, 1961
CONFIGURATION DECISION JAN. 1, 1960
STATIC & PRE-FLIGHT TESTS (MAR. 1 TO 27, '61)
25X1A6a
TO [redacted] (MAR. 28 TO 30, '61)
STATIC TESTS PARTIAL MODEL
PRE-FLIGHT AT [redacted] (APR. 3 TO 28, '61
25X1A6a
FUEL & HYD. SYSTEM TESTS
FLY MAY 1, 1961
59 F M A M J J A S O N D 60 F M A M J J A S O N D 61 F M A M J J A S O N D 62 F M A M J J A S O N D 63

25X1A9a [redacted]

Clarence L. Johnson
Vice President
Advanced Development Projects

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